

## Claims

- [c1] 1. An image comparator, comprising:
- a) an electronic image display, which provides a reference image;
  - b) a first mirror, which making reflection of image;
  - c) a first light source, which illuminates first pattern for first image;
  - d) a first splitter mirror, which making partial penetration and reflection of image, with mirror to form an optical path, both reference image and image of pattern are projected to splitter mirror.
- [c2] 2. The image comparator in accordance with claim 1, wherein said reference image is captured in advance by an electronic image-scanning device to convert the reference video light signal into electronic digital signal and then store the digital signal into memory after computer processing, and the video signal is outputted from the computer to the electronic image display.
- [c3] 3. The image comparator in accordance with claim 1, wherein said first image goes to first splitter mirror, is the same as the optical distance of reference image goes to first mirror, then being reflected to first splitter mirror.
- [c4] 4. The image comparator in accordance with claim 1, further comprising a second mirror.
- [c5] 5. The image comparator in accordance with claim 4, wherein said reference image goes to second mirror, then being reflected to first splitter mirror, is the same as the optical distance of first image goes to first splitter mirror, then being reflected to first mirror, and then being reflected to first splitter mirror.
- [c6] 6. The image comparator in accordance with claim 1, wherein said reference image goes to first splitter mirror, is the same as the optical distance of first image goes through first splitter mirror, to first mirror, then being reflected to first splitter mirror.
- [c7] 7. The image comparator in accordance with claim 1, further comprising: a) a second splitter mirror; and b) a second light source, which illuminates second pattern for second image.

[c8] 8. The image comparator in accordance with claim 7, wherein said reference image goes to second splitter mirror, then being reflected to first splitter mirror, is the same as the optical distance of first image goes through first splitter mirror, to first mirror, then being reflected to first splitter mirror, is the same as the optical distance of second image goes through second splitter mirror, to first splitter mirror.

[c9] 9. The image comparator in accordance with claim 7, wherein said reference image goes through second splitter mirror, to first splitter mirror, is the same as the optical distance of first image goes to first splitter mirror, then being reflected to first mirror, then being reflected to first splitter mirror, is the same as the optical distance of second image goes to second splitter mirror, then being reflected to first splitter mirror.

[c10] 10. The image comparator in accordance with claim 7, further comprising a second mirror and a lens.

[c11] 11. The image comparator in accordance with claim 10, wherein said reference image goes to first splitter mirror, is the same as the optical distance of first image goes through first splitter mirror, to second splitter mirror, then being reflected from there goes through lens, to first mirror and being reflected back to second splitter mirror, then being reflect to first splitter mirror, is the same as the optical distance of second image goes to second mirror, then being reflected from there goes through second splitter mirror and lens, to first mirror and being reflected back to second splitter mirror, then being reflect to first splitter mirror.

[c12] 12. The image comparator in accordance with claim 11, wherein said lens moves along the optical axis between first mirror and second splitter mirror.

[c13] 13. The image comparator in accordance with claim 3, 5 or 6 further comprising an image display switching control unit which having alternating electronic signal controlling on/off status of first light source and light of electronic image display alternatively.

[c14] 14. The image comparator in accordance with claim 8, 9, or 11 further more

comprising an image display switching control unit which having alternating electronic signal controlling on/off status of first light source and second light source and light of electronic image display alternatively.

[c15] 15. The image comparator in accordance with claim 3, 5, or 6, further comprising: a) a first liquid crystal panel with a polarizer, which place between first pattern and splitter mirror; b) a polarizer, which place between electronic image display and first splitter mirror; c) an image display switching control unit, which having alternating electronic signal controlling on/off status of first liquid crystal panel and light of reference image alternatively.

[c16] 16. The image comparator in accordance with claim 8, 9 or 11, further more comprising: a) a first liquid crystal panel with a polarizer, which place between first pattern and first splitter mirror; b) a second liquid crystal panel with a polarizer, which place between second pattern and second splitter mirror; c) a polarizer, which place between electronic image display and splitter mirror; d) an image display switching control unit, which having alternating electronic signal controlling on/off status of first liquid crystal panel and second liquid crystal panel and light of reference image alternatively.